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EXAMINER

NGUYEN, DUNG X

ART UNIT PAPER NUMBER

2631

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/028,413

Applicant(s)

WALTHO ET AL.

Examiner

Dung X Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 - 36 is/are allowed.
- 6) ☒ Claim(s) 1 - 4, 8, 11, 12, 14 - 16, 18 - 20, 22 - 28, 37, and 38 is/are rejected.
- 7) ☒ Claim(s) 5 - 7, 9, 10, 13, 17 and, 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***DETAILED ACTION***

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

2. **Claims 1, 2, 8, 11, 12, 14, 15, 18, 19, 22 - 26, and 37 are rejected** under 35 U.S.C. 102(b) as being anticipated by Davidson et al. (US patent # 5,632,003).

Regarding claim 1, Davidson et al. discloses (figures 3, 4, and 13):

- An encoder to receive and to encode a data word, wherein a power spectral density (PSD) of encoded word is to be lowered across a specific band relative to the PSD of the data word (abstract, column 1, line 11 to column 2, line 19, and column 8, lines 48 – 65);
- A data transmission bus (block 110 of figure 13) coupled with the encoder to receive the encoded word, wherein an inherent clock frequency of the data transmission bus is selected based on the specific frequency band (column 2, lines 48 – 56);
- A decoder coupled with the data transmission bus to receive and to decode the encoded word wherein the data word is to be obtained from the encoded word (column 2, lines 57 – 62 and column 8, lines 21 – 65).

Regarding claim 2, as followed by the limitations analyzed in claim 1, Davidson et al. further discloses (figure 13) that wherein the encoder to inherently cause transitions within encoded word at a rate equivalent to a bandwidth to be protected (column 2, lines 21 – 47 and column 8, lines 27 – 33).

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Regarding claim 8, as followed by the limitations analyzed in claim 1, Davidson et al. further discloses (figure 13) that wherein the inherent clock frequency of the data bus is selected to place the specific frequency band proximate to a wireless network frequency band (column 2, lines 48 – 56).

Regarding claim 11, the limitations are analyzed in the same manner set forth as claim 1.

Regarding claim 12, as followed by the limitations analyzed in claim 11, the limitations are analyzed in the same manner set forth as claim 2.

Regarding claim 14, as followed by the limitations analyzed in claim 11, the limitations are analyzed in the same manner set forth as claim 8.

Regarding claim 15, Davidson et al. discloses (figures 3, 4, and 13):

- An encoder to receive and to encode a data word, wherein a power spectral density (PSD) of encoded word is to be lowered across a specific band relative to the PSD of the data word and an inherent clock frequency of a data transmission bus (block 110 of figure 13), to receive the encode word, is selected based on the specific frequency band (abstract, column 1, line 11 to column 2, line 19, and column 8, lines 48 – 65).

Regarding claim 18, as followed by the limitations analyzed in claim 15, the limitations are analyzed in the same manner set forth as claim 8.

Regarding claim 19, Davidson et al. discloses (figures 3, 4, and 13):

- An decoder to receive and to decode an encode word to obtain a data word from the encoded word, wherein a power spectral density (PSD) of encoded word is to be lowered across a specific band relative to the PSD of the data word and an inherent clock frequency of a data transmission bus (block 110 of figure 13), to receive the encode word, is selected based on the specific frequency band (abstract, column 1, line 11 to column 2, line 19, and column 8, lines 48 – 65).

Regarding claim 22, as followed by the limitations analyzed in claim 19, the limitations are analyzed in the same manner set forth as claim 8.

Regarding claim 23, Davidson et al. discloses (figures 3, 4, and 13):

- A processor (figures 3, 4, and 13);
- A data transmission bus (block 110 of figure 13) wherein an inherent clock frequency of the data transmission bus is selected based on the specific frequency band (column 2, lines 48 – 56);
- A memory to communicate with the processor (column 2, lines 48 – 56);
- An encoder to receive and to encode a data word, wherein a power spectral density (PSD) of encoded word is to be lowered across a specific band relative to the PSD of the data word (abstract, column 1, line 11 to column 2, line 19, and column 8, lines 48 – 65);
- A decoder coupled with the data transmission bus to receive and to decode the encoded word wherein the data word is to be obtained from the encoded word (column 2, lines 57 – 62 and column 8, lines 21 – 65).

Regarding claim 24, as followed by the limitations analyzed in claim 23, the limitations are analyzed in the same manner set forth as claim 2.

Regarding claim 25, Davidson et al. discloses (figures 3, 4, and 13):

- Encoding a data word, wherein a power spectral density (PSD) of encoded word is to be lowered across a specific band relative to the PSD of the data word (abstract, column 1, line 11 to column 2, line 19, and column 8, lines 48 – 65);
- Transmitting the encoded word on a data transmission bus (block 110 of figure 13), wherein an inherent clock frequency of the data transmission bus is selected to place the specific frequency band proximate to a wireless network frequency band (column 1, line 26 to column 2, line 56);

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- Decoding the encoded word, received from the data transmission bus (block 110 of figure 13), wherein the data word is obtained from the encoded word (column 2, lines 57 – 62 and column 8, lines 21 – 65).

Regarding claim 26, as followed by the limitations analyzed in claim 25, the limitations are analyzed in the same manner set forth as claim 2.

Regarding claim 37, Davidson et al. discloses (figures 3, 4, and 13):

- A means for lowering a power spectral density (PSD) of a data word across a specific band (abstract, column 1, line 11 to column 2, line 19, and column 8, lines 48 – 65);
- A means for transmitting the data word (column 1, line 26 to column 2, line 56); and
- A means for recovering the data word after transmission of the data word (column 2, lines 57 – 62 and column 8, lines 21 – 65).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

4. **Claim 3, 4, 12, 16, 20, 27, 28, and 38 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Davidson et al. (US patent # 5,632,003), and further in view of Patel et al. (US patent # 5,525,983).

Regarding claim 3, as followed by the limitations analyzed in claim 1, Davidson et al. differ from the instant claimed invention that it does not show the step of wherein the encoder to substantially balance a weight of the encoded word.

However, Patel et al. discloses the step of wherein the encoder to substantially balance a weight of the encoded word (column 2, lines 14 – 36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Davidson et al. and Patel et al. as providing the requirement of the claimed invention for maintaining the balance of the encoded words (column 1, lines 7 – 14 of Patel et al.).

Regarding claim 4, as followed by the limitations analyzed in claim 1, Patel et al. further discloses wherein the encoder to substantially balance a weight of at least two consecutive words (column 2, lines 14 – 36).

Regarding claim 12, as followed by the limitations analyzed in claim 11, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 16, as followed by the limitations analyzed in claim 15, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 20, as followed by the limitations analyzed in claim 19, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 27, as followed by the limitations analyzed in claim 25, the limitations are analyzed in the same manner set forth as claim 3.

Regarding claim 28, as followed by the limitations analyzed in claim 25, the limitations are analyzed in the same manner set forth as claim 4.

Regarding claim 38, as followed by the limitations analyzed in claim 37, the limitations are analyzed in the same manner set forth as claim 4.

***Allowable Subject Matter***

5. **Claims 5 – 7, 9, 10, 13, 17, 21, 29, and 30 are objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. **Claims 31 – 36 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to claim 31, the prior art of record fails to show or render obvious of a computer readable medium executable program instructions, which cause the data processing system to perform a method, comprising:

Encoding a data word, wherein a power spectral density (PSD) of an encoded word is lowered across a specific band;

Transmitting the encoded word on a data transmission bus wherein a clock frequency of the data transmission bus is selected to cause a null in a power spectrum of bits transmitted on the data transmission bus to overlap with a network frequency; and

Decoding the encoded word, which is received from the data transmission bus, wherein the data word is obtained from the encoded word.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Uchida (US patent # 6,353,912 B1) discloses a method and its corresponding apparatus for use with a digital transmitting, recording, and reproducing a digital signal.

Filder (US patent 5,623,577) discloses a method and its corresponding apparatus for computationally efficient adaptive bit allocation with allowance for decoder spectral distortions.



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York et al. (US patent # 4,439,764) discloses a method and its corresponding apparatus for dual mode meter reading.

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour H. Mohammad can be reached on (571) 272-3021. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

March 03, 2005

  
MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER